

REMARKS

Claims 1, 4, 5, 7, 11-14, 16-19, 23-26, 30, and 31 are pending. Clarifying amendments are made in each of claims 1, 4, 5, 7, 11, 13, 14, 16-19, 23-25, 30, and 31 to more clearly and better define Applicant's claimed apparatus and method. No new matter is added by the clarifying amendments, as there is full support for the amendments in the specification and drawings. See at least page 4, lines 29-34; page 9, lines 4-26; page 10, line 34 to page 12, line 2; the Abstract; and Figure 1. Consideration and allowance of the claims, as amended, are requested for the reasons discussed below.

The Objections

The Examiner objected to claims 1, 4, 5, 7, 11-14, 16-19, 23-26, 30, and 31 on the basis of certain informalities discussed in the Office Action. Applicant has amended said claims by making appropriate corrections to address the objections and clarify the claims. Applicant also has made additional clarifying amendments in the pending claims as set forth in the listing of claims on pages 2-6 herein.

The §112 Rejection

Claims 30 and 31 were rejected under §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has amended claims 30 and 31 to address what appears to be the Examiner's concern with regard to claims 30 and 31. Claims 30 and 31, as amended, particularly point out and distinctly claim the subject matter which Applicant regards as the claimed use of Applicant's apparatus. Accordingly, claims 30 and 31, as amended, should be allowed.

The §101 Rejection

The Examiner also rejected claims 30 and 31 under §101 on the grounds that the claimed recitation of the use, without setting forth any steps involved in the process, results in an improper definition of a process. Applicant has amended claims 30 and 31 to address what appears to be the Examiner's concern with regard to claims 30 and 31. Accordingly, claims 30 and 31, as amended, should be allowed.

The §102 Rejection

The Examiner rejected claims 1, 7, 11, 13, 14, 19, 23, 24, 30, and 31 under §102 as being anticipated by Grenier (U.S. Pat. No. 5,412,954). The Examiner's reasons in support of this rejection are set forth on pages 3-5 of the Office Action.

The apparatus disclosed in Grenier is significantly different than Applicant's apparatus as claimed in amended independent claim 1. For the reasons discussed below, independent claim 1, as amended, is not anticipated by Grenier and should be allowed.

Applicant's apparatus is an assembled unit comprising multiple modules which are adjacent each other. The further distillation column module is mounted on top of the first distillation column module, and the heat exchange module is adjacent at least one of the two distillation column modules. In addition, the assembled unit is suitable for transportation as a single pre-assembled unit from one location to another location a substantial distance away, and the single pre-assembled unit is suitable for erection at a site for a cryogenic air separation plant.

In contrast, Grenier's heat exchange line 2 enclosed in main cold box 19 is not adjacent either column 1A or column 1B (which columns are enclosed in cylindrical sheath

15). Rather, there is a substantial space between those components (the heat exchange line and the double distillation column), which are connected by cold connection box 20, as shown in both Figure 1 and Figure 3 of Grenier.

As noted in column 3, lines 49-53 of Grenier, the double column 1-sheath 15 assembly is transported as a separate unit. This implies that the other components, such as main cold box 19 and cold connection box 20, are transported separate from the double column 1-sheath 15 assembly. Therefore, the apparatus of Grenier is not transported from one location to another location a substantial distance away as a single pre-assembled unit which is suitable for erection at a site for a cryogenic air separation plant.

Accordingly, since Grenier does not teach or disclose each and every limitation and element of Applicant's apparatus as claimed in amended independent claim 1, the subject matter of said claim is novel and claim 1, as amended, should be allowed.

The dependent claims (claims 7, 11, 13, 14, 19, 23, 24, 30, and 31), which depend from amended independent claim 1, also are not anticipated by Grenier because said dependent claims also include the limitations and elements of claim 1 (as arranged in claim 1), which are not taught or disclosed by Grenier. Accordingly, dependent claims 7, 11, 13, 14, 19, 23, 24, 30, and 31, as amended, also are novel and should be allowed.

The §103 Rejections

The Examiner rejected dependent apparatus claims 4 and 5 under §103 as being unpatentable over Grenier in view of Bracque et al. (U.S. Pat. No. 5,349,827). For the reasons discussed below, Applicant's apparatus claimed in dependent apparatus claims 4 and 5, as amended, is not obvious in view of the cited references.

In support of the rejection of dependent apparatus claims 4 and 5, the Examiner stated: “Grenier teaches all of the claim limitations of claims 4-5, but does not explicitly teach that the diameter of the column (1B) is about 3.5 (claim 4) or 5 or 6 (claim 5) meters (16-19 feet).” (Emphasis added). The Examiner then explained how, according to his position, said missing teaching (column diameter size) would have been obvious to one of ordinary skill in the art at the time Applicant’s invention was made in view of distillation columns having diameters of about 5 meters as taught by Bracque (827).

However, Grenier does not teach all of the claim limitations of amended dependent apparatus claims 4 and 5. As discussed above, with respect to the §102 rejection, Grenier does not teach or disclose several limitations of independent apparatus claim 1, as amended. Bracque (827) does not cure the deficiencies of Grenier, since Bracque (827) also does not teach or disclose all of the limitations in claim 1, as amended. Accordingly, dependent apparatus claims 4 and 5, as amended, (which claims depend from amended independent claim 1) are not obvious in view of the combination of Grenier with Bracque (827).

For similar reasons, dependent claims 12, 16-18, and 25-26, as amended, also are not obvious in view of the combination of Grenier with the other references cited by the Examiner. These reasons are discussed below with respect to each of the specific rejections.

The Examiner rejected dependent apparatus claim 12, which depends from independent claim 1 (as dependent claim 11, from which claim 12 depends, depends from claim 1), as being unpatentable over Grenier in view of Zarate et al. (U.S. Pat. No. 4,957,523). For the reasons discussed below, Applicant’s apparatus claimed in dependent apparatus claim 12 is not obvious in view of the cited references.

In support of the rejection of dependent apparatus claim 12, the Examiner stated: “Grenier teaches all of the limitations of claim 12 but does not explicitly teach that the air purification unit (4) comprises at least two air purification vessels arranged in parallel, each vessel comprising at least one bed of carbon dioxide and/or water adsorbent material.” (Emphasis added). The Examiner then explained how, according to his position, said missing teaching (purification system) would have been obvious to one of ordinary skill in the art at the time Applicant’s invention was made in view of the air purification system taught by Zarate.

However, Grenier does not teach all the claim limitations of dependent apparatus claim 12. As discussed above, with respect to the §102 rejection, Grenier does not teach or disclose several of the limitations of independent apparatus claim 1, as amended. Zarate does not cure the deficiencies of Grenier, since Zarate also does not teach or disclose all of the limitations of independent claim 1, as amended. Accordingly, dependent apparatus claim 12 (which depends from independent claim 1) is not obvious in view of the combination of Grenier with Zarate.

The Examiner rejected dependent apparatus claims 16-18 and dependent method claims 25-26 as being unpatentable over Grenier in view of Bracque et al. (U.S. Pat. No. 5,461,871). For the reasons discussed below, Applicant’s apparatus and method claimed in dependent apparatus claims 16-18 and dependent method claims 25-26, as amended, are not obvious in view of the cited references.

In support of the rejection of dependent apparatus claims 16-18 and dependent method claims 25-26, the Examiner stated: “Grenier teaches all of the limitations of claims 16-18 but

does not explicitly teach that the at least one further processing unit (3, 4, 5, 6) is provided within at least one further processing unit module.” (Emphasis added). The Examiner then explained how, according to his position, said missing teaching (providing a processing unit within a module) would have been obvious to one of ordinary skill in the art at the time Applicant’s invention was made in view of the teachings of Bracque (871).

However, Grenier does not teach all of the claim limitations of dependent apparatus claims 16-18. As discussed above, with respect to the §102 rejection, Grenier does not teach or disclose all of the limitations of the apparatus of independent claim 1, as amended. Bracque (871) does not cure the deficiencies of Grenier, since Bracque (871) also does not teach or disclose all of the limitations of independent claim 1, as amended. Accordingly, dependent apparatus claims 16-18 (which depend from independent claim 1) are not obvious in view of the combination of Grenier and Bracque (871).

In support of the rejection of dependent method claims 25-26, the Examiner stated: “Grenier and Bracque (871) teach all of the limitations but do not explicitly teach transporting the assembled unit and erecting the unit on site nor that construction takes place at a dockside or a construction facility with access to a dockside for transportation by sea.” (Emphasis added). The Examiner then explained how, according to his position, said missing teaching (transporting an assembled unit and erecting the assembled unit at a dockside) would have been obvious to one of ordinary skill in the art at the time Applicant’s invention was made.

However, for the reasons previously discussed above, Grenier and Bracque (871) do not teach all of the limitations of dependent method claims 25-26. As discussed above, with respect to the §102 rejection of claim 1 and with respect to the §103 rejection of claims 16-18,

Grenier and Bracque (871) do not teach all of the limitations of the apparatus of independent claim 1, as amended, and of amended claims 16-18. Accordingly, dependent method claims 25-26 (which depend from independent claim 1) are not obvious in view of the combination of Grenier and Bracque (871).

Moreover, the Examiner did not reject independent apparatus claim 1 as being obvious under §103; and independent apparatus claim 1, as amended, is not obvious in view of Grenier, which does not teach or disclose all of the limitations and elements of amended claim 1¹. Since independent apparatus claim 1, as amended, is non-obvious under §103, all of the dependent claims (including dependent claims 4, 5, 12, 16-18, and 25-26) which depend from independent apparatus claim 1, as amended, also are non-obvious. *In re Fine*, 837 F.2d 1071, 1076, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988).

Accordingly, for all of the above reasons, dependent claims 4, 5, 12, 16-18, and 25-26 are non-obvious and should be allowed.

CONCLUSION

Applicant believes that the foregoing constitutes a complete and full response to the Office Action dated February 19, 2009. In view of the amendments and the remarks above, the present application is in condition for allowance and a Notice to that effect is respectfully solicited.

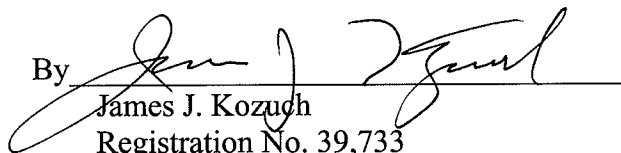
Should the Examiner deem that any action on the part of Applicant would advance prosecution, the Examiner is invited to telephone Applicant's attorney.

¹ To establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (C.C.P.A. 1974).

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